Materials Testing & Consulting, Inc.

Geotechnical Engineering • Special Inspection • Materials Testing • Environmental Consulting

Project:	East Eagle Harbor OU 2016 OMMP Monitoring	**Date Received:**	January 25, 2017
Project #:	17T001-003	**Sampled By:**	Others
Client :	Analytical Resouces, Inc.	**Date Reported:**	February 8, 2017
Source:	Multiple	**Tested By:**	K. O'Connell
MTC Sample#:	Multiple		

CASE NARRATIVE

1. Eight samples were submitted for grain size analysis according to Puget Sound Estuary Protocol (PSEP) methodology.
2. The samples were run in a single batch and one sample from this job was chosen for triplicate analysis. The triplicate data is reported on the QA summary.
3. Two samples contained shell fragments which may have broken down, affecting the grain size analysis.
4. The data is provided in summary tables and plots.
5. There were no other noted anomalies in this project.

Reviewed by: _____

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Project: East Eagle Harbor OU 2016 OMMP Monitoring
Client: Analytical Resouces, Inc.
Project #: 17T001-003
Date Received: January 25, 2017
Sampled by: Others
Date Tested: February 6, 2017
Tested by: K. O'Connell

Apparent Grain Size Distribution Summary

Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt				Clay	
Phi Size	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
Sieve Size (microns)	3/8"	#4 (4750)	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (63)	31.0	15.6	7.8	3.9	2.0	1.0
17A0304-08	100.0	96.7	69.6	57.4	43.5	33.6	29.0	22.5	16.3	12.5	9.5	7.1	5.3	3.8
	100.0	98.0	70.5	57.7	44.0	34.0	29.5	23.1	16.1	12.0	9.8	7.3	5.3	3.7
	100.0	95.2	68.5	56.6	41.7	31.6	26.8	21.0	16.0	12.3	9.5	6.9	5.3	3.9
17A0304-01	100.0	93.6	83.2	67.0	45.4	23.2	12.8	6.8	3.5	2.9	2.3	1.9	1.5	1.2
17A0304-02	100.0	91.8	90.2	85.1	73.7	47.9	25.8	12.8	7.9	5.7	4.5	3.8	3.0	2.2
17A0304-03	100.0	99.7	99.0	96.5	81.2	41.7	19.6	11.7	7.5	5.9	4.6	3.7	2.8	2.1
17A0304-04	100.0	97.7	95.2	91.5	74.1	41.1	25.0	10.6	4.4	3.1	2.5	2.1	1.6	1.2
17A0304-05	100.0	98.4	98.1	97.0	93.5	80.3	54.4	21.9	10.1	7.2	5.6	4.5	3.5	2.8
17A0304-06	100.0	92.8	70.7	61.0	51.1	43.4	34.4	22.6	14.2	10.8	8.1	6.2	4.6	3.2
17A0304-07	100.0	94.5	71.0	62.0	51.7	43.9	34.7	23.2	15.3	11.1	7.8	6.0	4.5	3.2

Notes to the Testing: Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Reviewed by: EGabrielle

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Project: East Eagle Harbor OU 2016 OMMP Monitoring
Project #: 17T001-003
Date Received: January 25, 2017
Date Tested: February 6, 2017

Client: Analytical Resouces, Inc.
Sampled by: Others
Tested by: K. O'Connell

Apparent Grain Size Distribution Summary

Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
Phi Size	< -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	> 10	> 4
Sieve Size (microns)	> #10 (2000)	10-18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (<62)
17A0304-08	30.4	12.3	13.9	9.9	4.6	6.5	6.2	3.8	3.0	2.5	1.7	1.5	3.8	22.5
	29.5	12.8	13.7	10.0	4.5	6.4	7.0	4.1	2.2	2.5	2.0	1.6	3.7	23.1
	31.5	11.9	14.9	10.1	4.7	5.9	5.0	3.6	2.9	2.5	1.6	1.4	3.9	21.0
17A0304-01	16.8	16.2	21.6	22.2	10.4	6.0	3.3	0.6	0.5	0.4	0.4	0.3	1.2	6.8
17A0304-02	9.8	5.1	11.4	25.8	22.1	13.0	4.9	2.2	1.2	0.7	0.8	0.8	2.2	12.8
17A0304-03	1.0	2.5	15.3	39.6	22.1	7.8	4.2	1.7	1.3	0.9	0.8	0.8	2.1	11.7
17A0304-04	4.8	3.7	17.4	33.0	16.1	14.4	6.2	1.3	0.6	0.4	0.5	0.4	1.2	10.6
17A0304-05	1.9	1.1	3.5	13.2	25.9	32.5	11.7	3.0	1.6	1.1	1.0	0.7	2.8	21.9
17A0304-06	29.3	9.7	9.9	7.7	8.9	11.8	8.4	3.4	2.7	1.9	1.6	1.4	3.2	22.6
17A0304-07	29.0	9.0	10.3	7.8	9.1	11.5	7.9	4.2	3.3	1.8	1.5	1.3	3.2	23.2

Notes to the Testing: Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Reviewed by: Elizabeth Noble

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Project: East Eagle Harbor OU 2016 OMMP Monitorin
Project #: 17T001-003
Date Received: January 25, 2017
Date Tested: February 6, 2017

Client: Analytical Resouces, Inc.
Sampled by: Others
Tested by: K. O'Connell

Relative Standard Deviation, By Phi Size

Sample ID	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
17A0304-08	100.0	96.7	69.6	57.4	43.5	33.6	29.0	22.5	16.3	12.5	9.5	7.1	5.3	3.8
	100.0	98.0	70.5	57.7	44.0	34.0	29.5	23.1	16.1	12.0	9.8	7.3	5.3	3.7
	100.0	95.2	68.5	56.6	41.7	31.6	26.8	21.0	16.0	12.3	9.5	6.9	5.3	3.9
AVE	100.0	96.6	69.6	57.2	43.1	33.1	28.4	22.2	16.1	12.3	9.6	7.1	5.3	3.8
STDEV	0.0	1.1	0.8	0.5	1.0	1.1	1.2	0.9	0.1	0.2	0.1	0.2	0.0	0.1
%RSD	0.0	1.2	1.2	0.8	2.3	3.2	4.0	4.0	0.9	1.9	1.6	2.3	0.2	2.2

The Triplicate Applies To The Following Samples

Client ID	Date Sampled	Date Extracted	Date Complete	QA Ratio (95-105)	Data Qualifiers	Pipette Portion (5.0-25.0g)
17A0304-08	1/24/2017	1/26/2017	2/6/2017	101.8		6.9
	1/24/2017	1/26/2017	2/6/2017	103.2		6.9
	1/24/2017	1/26/2017	2/6/2017	100.6		6.3
17A0304-01	1/23/2017	1/26/2017	2/6/2017	101.0		8.3
17A0304-02	1/23/2017	1/26/2017	2/6/2017	99.2		6.9
17A0304-03	1/23/2017	1/26/2017	2/6/2017	100.6		9.2
17A0304-04	1/23/2017	1/26/2017	2/6/2017	101.2		13.1
17A0304-05	1/24/2017	1/26/2017	2/6/2017	101.4		8.2
17A0304-06	1/24/2017	1/26/2017	2/6/2017	101.8		7.7
17A0304-07	1/24/2017	1/26/2017	2/6/2017	102.3		7.8

* MTC Internal QA limits = 95-105%

Notes to the Testing: Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Reviewed by: _____

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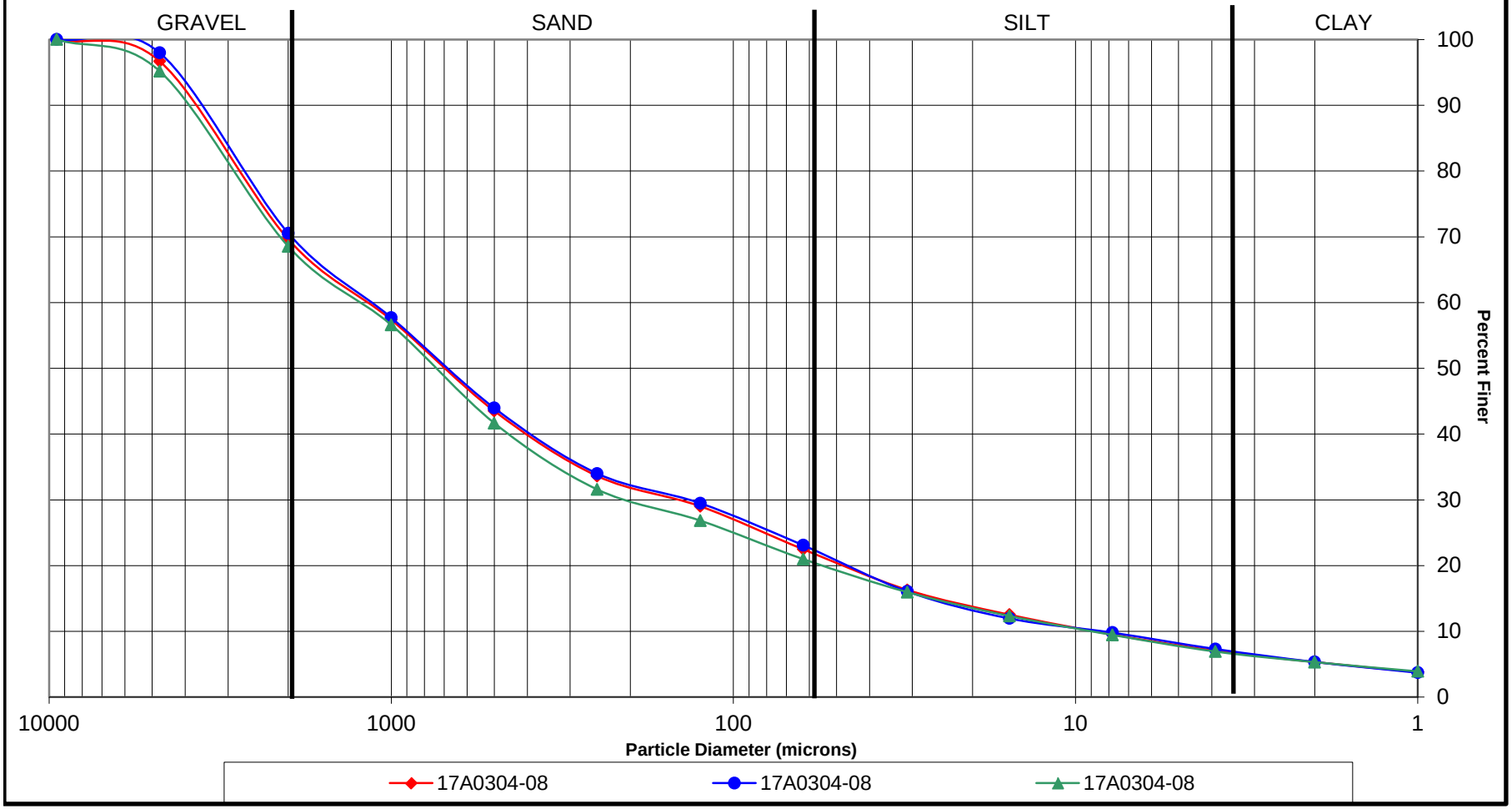
PSEP Grain Size Distribution

Triplicate Sample Plot



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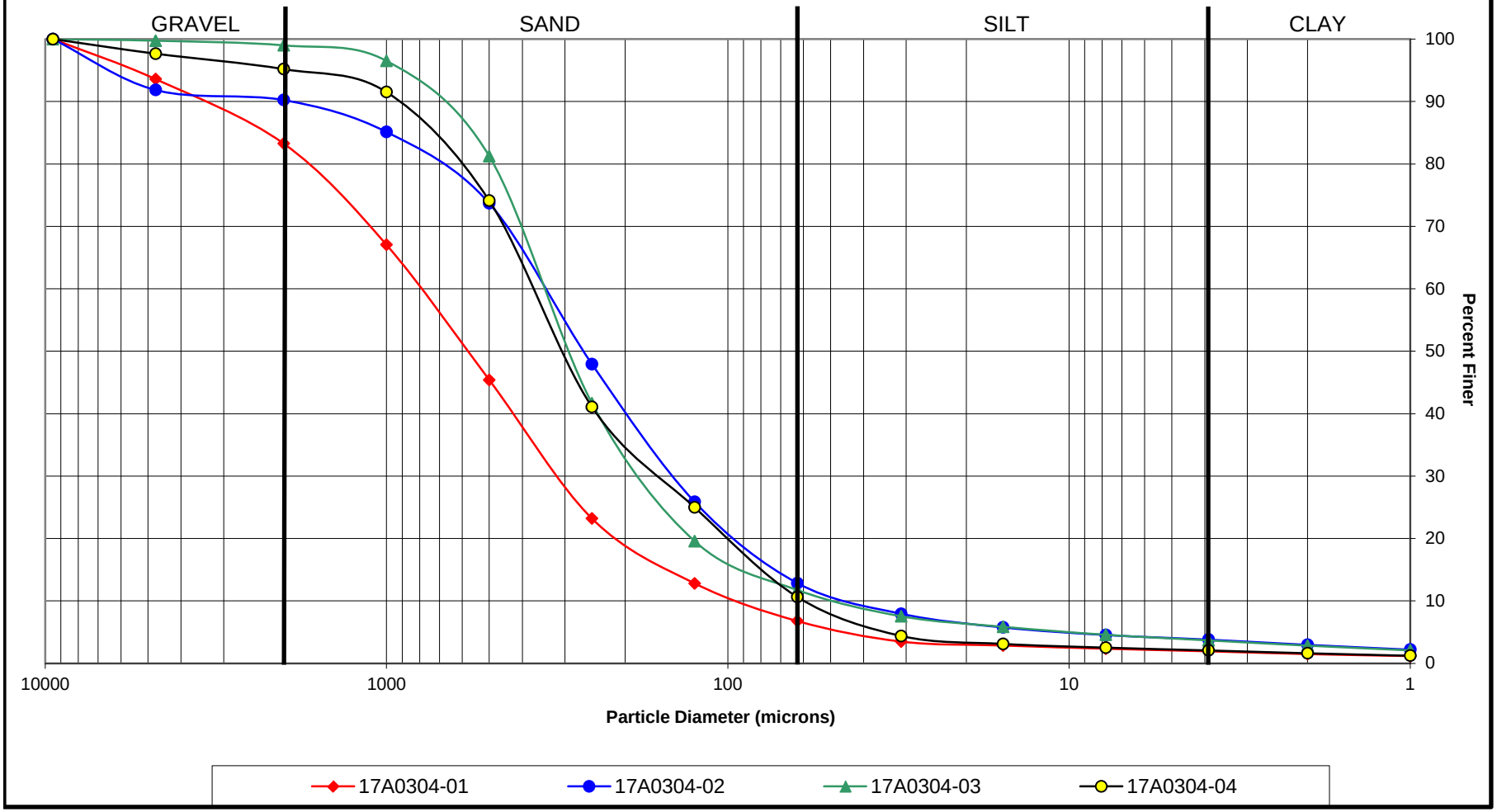
PSEP Grain Size Distribution



MTC
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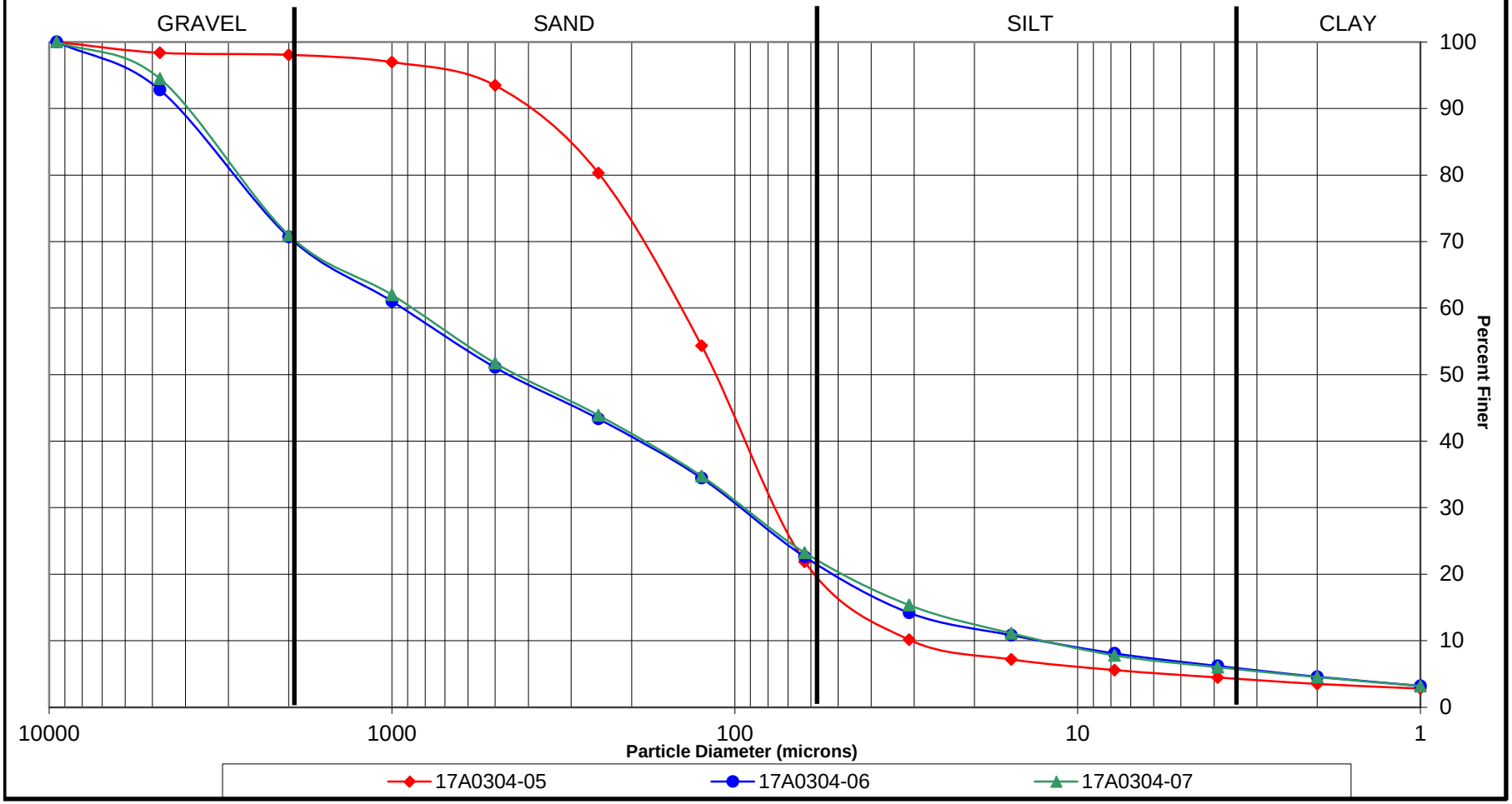
PSEP Grain Size Distribution



PSEP GRAIN SIZE ANALYSIS

Project: East Eagle Harbor

Project #: 17T001.005

Location: 17A0304-08

Lab #: T17-0243.1

Description: Grey sandy SIlt

Client: Analytical Resources

Sampled by: Others

Date Sampled: 01.23.17 (24hr)

Date Setup: 01.26.17

Equipment Used: TCA.002, TSA.1067, TCA.001

SOLIDS CONTENT

Moisture Content	Initials: KO
Tare #	107
Tare Weight	1.5229
Wet Weight+Tare	36.4696
Dry Weight+Tare	KO 34 25.0689

Test Sample	Initials:
Tare #	107
Tare Weight	51.0859
Wet Weight+Tare	96.6281
Dry Weight+Tare	75.2495

Batch #: 336

2/3/2017

Temp:22

PIPETTE ANALYSIS

Initials: KO

TIME	Tare #	Tare Wt	Dry Wt+Tare
11:15:00	243-1 1	1.4320	1.5088
11:16:49	243.1 2	1.4390	1.5474 KO 68
11:22:15	243.1 3	1.4302	1.5153
11:43:59	243.1 4	1.4321	1.4990
13:11:00	243.1 5	1.4316	1.4837
16:49:00	243.1 6	1.4329	~~1.4919~~ KO 1.4746
10:23:00	243.1 7	1.4305	1.4629

SIEVE ANALYSIS

Sieve Date: 01.27.17

Sieve Set #: 1

Initials: KO

Sieve Size	Weight Retained
Tare	51.0903
#4	52.1070
#10	60.4100
#18	64.1718
#35	68.4220
#60	71.4594
#120	72.8712
#230	74.8781
PAN	0.4285

SALT CORRECTION

Date: _____ Initials: _____

Tare Weight	
Dry Weight+Tare	

Triplicate Batch # B0034

PSEP GRAIN SIZE ANALYSIS

Project: East Eagle Harbor
Client: Analytical Resources
Project #: ~~T700.003~~
Sampled by: others
Location: 17A0304-08
Date Sampled: 01.24.17
Lab # T7-0243.2
Date Setup: 01.26.17
Description: Grey sandy silt
Equipment Used: TA-001, TA-002, TSA-40647

SOLIDS CONTENT

Moisture Content	Initials: KO
Tare #	130
Tare Weight	1.5256
Wet Weight+Tare	29.7910
Dry Weight+Tare	20.7188

Test Sample	Initials: KO
Tare #	130
Tare Weight	50.9191
Wet Weight+Tare	95.2588
Dry Weight+Tare	74.4510

Calgon Batch #: 386

2/3/2017
Temp:22

PIPETTE ANALYSIS

Initials: KO

TIME	Tare #	Tare Wt	Dry Wt+Tare
11:18:00	0243.2 1	1.4415	1.5717
11:18:20	0243.2 2	1.4297	1.5329
11:19:49	0243.2 3	1.4323	1.5116
11:25:15	0243.2 4	1.4451	1.5118
11:46:59	0243.2 5	1.4397	1.4919
13:14:00	0243.2 6	~~1.4538~~ 1.4859 KO	~~1.5729~~ 1.5715 KO
16:52:00	0243.2 7	1.5210	~~1.4649~~ 1.5522 KO
10:26:00			

SIEVE ANALYSIS

Sieve Date: 01.27.17
Sieve Set #: 1
Initials: KO

Sieve Size	Weight Retained
Tare	50.9232
#4	51.5362
#10	59.7916
#18	63.6570
#35	67.7950
#60	70.7952
#120	~~67~~ 72.1530 KO
#230	74.0812
PAN	0.3972

SALT CORRECTION

Date: _____ Initials: _____

Tare Weight	
Dry Weight+Tare	

Triplicate Batch # B0034

PSEP GRAIN SIZE ANALYSIS

Project: East Eagle Harbor

Client: Analytical Resources

Project #: 17T001-003

Sampled by: Others

Location: 17A0304-08

Date Sampled: 01-24-17

Lab # T17-0243-3

Date Setup: 01-26-17

Description: Gry Sandy Silt

Equipment Used: ~~TGA-001~~ ~~TGA-002~~ TGA606-2

SOLIDS CONTENT

Moisture Content	Initials: KO
Tare #	145
Tare Weight	1.5262
Wet Weight+Tare	30.8922
Dry Weight+Tare	25.3482

Test Sample	Initials: KO
Tare #	145
Tare Weight	50.6871
Wet Weight+Tare	95.2790
Dry Weight+Tare	74.7426

Calgon Batch #: 336

2/3/2017

Temp:22

PIPETTE ANALYSIS

Initials: KO

TIME	Tare #	Tare Wt	Dry Wt+Tare	
11:21:00	0243-3-1	1.5304	1.6023	
11:21:20	0243-3-2	1.5241	~~1.6295~~ KO 1.6289	
11:22:49	0243-3-3	1.5230	1.6002	
11:28:15	0243-3-4	1.5284	1.5944	
11:49:59	0243-3-5	1.5220	~~1.5945~~ KO	1.5729
13:17:00	0243-3-6	~~1.5~~ KO 1.4446	~~1.5715~~ KO	1.4859
16:55:00	0243-3-7	1.4520	~~1.5522~~ KO	1.4649
10:29:00				

SIEVE ANALYSIS

Sieve Date: 01-27-17

Sieve Set #: 2

Initials: KO

Sieve Size	Weight Retained
Tare	50.6902
#4	52.1386
#10	~~60.1459~~ KO 60.1403
#18	63.7254
#35	68.2095
#60	71.2419
#120	72.6638
#230	74.2435 KO
PAN	0.4412

SALT CORRECTION

Date: _____ Initials: _____

Tare Weight	
Dry Weight+Tare	

Triplicate Batch # B0034

PSEP GRAIN SIZE ANALYSIS

Project: East Eagle Harbor

Client: Analytical Resources

Project #: 17001-005

Sampled by: Others

Location: 17A0304-01

Date Sampled: 01-23-17

Lab # 17-0236

Date Setup: 01-26-17

Description: Gry brown Sandwith Silt gravel & silt

Equipment Used: ~~TBA 001~~ TB-002 ~~TBA~~ -1067

SOLIDS CONTENT

Moisture Content	Initials: KO
Tare #	166
Tare Weight	1.5193
Wet Weight+Tare	86.8797
Dry Weight+Tare	71.2695

Test Sample	Initials: KO
Tare #	166
Tare Weight	50.47808 KO
Wet Weight+Tare	201.0222
Dry Weight+Tare	166.6987

Calgon Batch #:	336

2/3/2017

Temp:22

PIPETTE ANALYSIS

Initials: KO

TIME	Tare #	Tare Wt	Dry Wt+Tare
11:24:00	0236 1	1.4433	1.5953
11:24:20	0236 2	1.4415	1.59356 KO
11:25:49	0236 3	1.5342	1.6137
11:31:15	0236 4	1.5254	1.5918
11:52:59	0236 5	1.5390	1.5954
13:20:00	0236 6	1.5267	1.5723
16:58:00	0236 7	1.5257	1.5635
10:32:00			

SIEVE ANALYSIS

Sieve Date: 01-27-17

Sieve Set #: 1

Initials: KO

Sieve Size	Weight Retained
Tare	50.7872
#4	58.6670
#10	71.3612
#18	91.2636
#35	117.8272
#60	145.0861
#120	157.8365
#230	165.2466
PAN	1.3386

SALT CORRECTION

Date: _____ Initials: _____

Tare Weight	
Dry Weight+Tare	

Triplicate Batch # B0034

PSEP GRAIN SIZE ANALYSIS

Project: East Eagle Harbor
Client: Analytical Resources
Project #: 170001.005
Sampled by: others
Location: 17A0304.02
Date Sampled: ~~01.26.17~~ KO 01.23.17
Lab # TT7-0237
Date Setup: 01.26.17
Description: brown-gray sandy silt w/ some gravel
Equipment Used: TA-001 TA-002 TA 10067

SOLIDS CONTENT

Moisture Content	Initials: KO
Tare #	170
Tare Weight	1.5237
Wet Weight+Tare	63.6863
Dry Weight+Tare	49.5139

Test Sample	Initials: KO
Tare #	170
Tare Weight	49.3495
Wet Weight+Tare	119.3159
Dry Weight+Tare	97.8599

Calgon Batch #:	336

SIEVE ANALYSIS

Sieve Date: 01.27.17
Sieve Set #: 2
Initials: KO

Sieve Size	Weight Retained
Tare	49.3526
#4	53.7605
#10	54.6328
#18	57.3939
#35	63.5668
#60	77.4801
#120	~~88~~ KO 89.4077
#230	96.4293
PAN	1.4292

PIPETTE ANALYSIS

2/3/2017
Temp:22
Initials: KO

TIME	Tare #	Tare Wt	Dry Wt+Tare
11:27:00	0237 1	1.4342	1.5910
11:27:20	0237 2	1.4314	1.5273
11:28:49	0237 3	1.4342	1.5065
11:34:15	0237 4	1.4255	1.4824
11:55:59	0237 5	1.4348	1.4856
13:23:00	0237 6	1.4286	1.4703
17:01:00	0237 7	1.4331	1.4664
10:35:00			

SALT CORRECTION

Date: _____ Initials: _____

Tare Weight	
Dry Weight+Tare	

Triplicate Batch # B0034

PSEP GRAIN SIZE ANALYSIS

Project: East Eagle Harbor
Project #: 17T001.003
Location: 17A0304-03
Lab # 17-0238
Description: Brown Silty Sand

Client: Analytical Resources
Sampled by: Others
Date Sampled: 01.23.17
Date Setup: 01.30.17
Equipment Used: TR-01 TR-002 - BA Tool 2

SOLIDS CONTENT

Moisture Content	Initials: KO
Tare #	108
Tare Weight	1.5234
Wet Weight+Tare	~~50.58.5~~ 50.5846
Dry Weight+Tare	37.1956

Test Sample	Initials: KO
Tare #	109
Tare Weight	50.5963
Wet Weight+Tare	158.9404
Dry Weight+Tare	121.2403

Calgon Batch #: 336

2/3/2017
Temp:22

PIPETTE ANALYSIS

Initials: KO

TIME	Tare #	Tare Wt	Dry Wt+Tare
11:30:00	0238 1	1.4407	1.6255
11:30:20	0238 2	1.4369	1.5644
11:31:49	0238 3	1.4520 KO	1.6281
11:37:15	0238 4	1.5410	1.6221
11:58:59	0238 5	1.4383 ~~1.5778~~ KO	1.5054
13:26:00	0238 6	1.5239	1.5778
17:04:00	0238 7	1.5189	1.5609
10:38:00			

SIEVE ANALYSIS

Sieve Date: 01.31.17
Sieve Set #: 2
Initials: KO

Sieve Size	Weight Retained
Tare	50.6003
#4	50.8073
#10	51.3955
#18	53.3582
#35	65.3825
#60	96.5620
#120	113.9674
#230	120.1313
PAN	1.0881

SALT CORRECTION

Date: _____ Initials: _____

Tare Weight	
Dry Weight+Tare	

Triplicate Batch # B0034

PSEP GRAIN SIZE ANALYSIS

Project: East Eagle Harbor

Project #: 17001.003

Location: 17A0304-04

Lab # 17-0239

Description: Gray-Brown Sandy Silt

Client: Analytical Resources

Sampled by: Others

Date Sampled: 01.23.17

Date Setup: 01.30.17 re KO

Equipment Used: ~~TA-01~~ TA-02 TA-1067

SOLIDS CONTENT

Moisture Content	Initials: KO
Tare #	132
Tare Weight	1.5289
Wet Weight+Tare	75.9481
Dry Weight+Tare	62.2519

Test Sample	Initials: KO
Tare #	132
Tare Weight	49.2995
Wet Weight+Tare	200.7502
Dry Weight+Tare	163.3598

Calgon Batch #: 336

2/3/2017

Temp:22

PIPETTE ANALYSIS

Initials: KO

TIME	Tare #	Tare Wt	Dry Wt+Tare
11:33:00	0239 1	1.5148	1.7579
11:33:20	0239 2	1.5255	1.6419
11:34:49	0239 3	1.5333	1.6187
11:40:15	0239 4	1.4343	1.5051
12:01:59	0239 5	1.5162	1.5761
13:29:00	0239 6	1.5189	1.5677
17:07:00	0239 7	1.4377	1.4768
10:41:00			

SIEVE ANALYSIS

Sieve Date: 01.31.17

Sieve Set #: 2

Initials: KO

Sieve Size	Weight Retained
Tare	49.3140
#4	52.2089
#10	KO ~~53~~ 55.2662
#18	59.8237
#35	81.3190
#60	122.1347
#120	142.0355
#230	159.7723
PAN	3.5037

SALT CORRECTION

Date: _____ Initials: _____

Tare Weight	
Dry Weight+Tare	

Triplicate Batch # B0034

PSEP GRAIN SIZE ANALYSIS

Project: East Eagle Harbor
Project #: 17100.003
Location: 17A0304-05
Lab #: 17-0240
Description: Dark Brown Silty Sand

Client: Analytical Resources
Sampled by: others
Date Sampled: 02-24-17
Date Setup: 01-27 KO 26-17
Equipment Used: TA-001 TA-002 TA-1067

SOLIDS CONTENT

Moisture Content	Initials: KO
Tare #	194
Tare Weight	1.5370
Wet Weight+Tare	89.2298
Dry Weight+Tare	59.6478

Test Sample	Initials: KO
Tare #	194
Tare Weight	50.4740
Wet Weight+Tare	107.3904
Dry Weight+Tare	82.2115

Calgon Batch #:	336

2/3/2017
Temp:22

PIPETTE ANALYSIS

Initials: KO

TIME	Tare #	Tare Wt	Dry Wt+Tare
11:36:00	0240 1	1.4250	1.5889
11:36:20	0240 2	1.4235	1.5085
11:37:49	0240 3	1.5220	1.5850
11:43:15	0240 4	1.5240	1.5751
12:04:59	0240 5	1.5120	1.5548
13:32:00	0240 6	1.5343	1.5699
17:10:00	0240 7	1.5229	1.5533
10:44:00			

SIEVE ANALYSIS

Sieve Date: KO 01-27-17
Sieve Set #: 2
Initials: KO

Sieve Size	Weight Retained
Tare	50.4799
#4	51.0951
#10	51.2105
#18	KO 51.6231
#35	52.9480
#60	57.9115
#120	67.6983
#230	79.9504
PAN	2.2811

SALT CORRECTION

Date: _____ Initials: _____

Tare Weight	
Dry Weight+Tare	

Triplicate Batch # B0034

PSEP GRAIN SIZE ANALYSIS

Project: East Eagle Harbor
Project #: 17-001-005
Location: 17A0304-06
Lab # T17-0241
Description: Brown Silty Sand with some shell fragments

Client: Analytical Resources
Sampled by: Others
Date Sampled: 01.24.17
Date Setup: 01.26.17
Equipment Used: TA-01 TA-02 TA-06R

SOLIDS CONTENT

Moisture Content	Initials: KO
Tare #	205
Tare Weight	1.5331
Wet Weight+Tare	35.5614
Dry Weight+Tare	25.0825

Test Sample	Initials: KO
Tare #	205
Tare Weight	50.1390
Wet Weight+Tare	99.6820
Dry Weight+Tare	77.4792

Calgon Batch #:	330

2/3/2017
Temp:22

PIPETTE ANALYSIS

Initials: KO

TIME	Tare #	Tare Wt	Dry Wt+Tare
11:39:00	0241 1	1.5312	1.6834
11:39:20	0241 2	1.5171	1.6222
11:40:49	0241 3	1.5197	1.6021
11:46:15	0241 4	1.5257	1.5897
12:07:59	0241 5	1.5140	1.5653
13:35:00	0241 6	1.5327	1.5731
17:13:00	0241 7	1.5355	1.5667
10:47:00			

SIEVE ANALYSIS

Sieve Date: 01.27.17
Sieve Set #: 1
Initials: KO

Sieve Size	Weight Retained
Tare	50.1482
#4	52.6211
#10	60.1969
#18	63.5133
#35	66.9238
#60	69.5669
#120	72.6286
#230	76.6851 KO
PAN	~~2.3830~~ 0.9471

SALT CORRECTION

Date: _____ Initials: _____

Tare Weight	
Dry Weight+Tare	

Triplicate Batch # B0034

PSEP GRAIN SIZE ANALYSIS

Project: East Eagle Harbor

Project #: 17T001.003

Location: 17A0304-07

Lab # T17-0242

Description: Dark brown Sandy silt w/ some thin layering

Client: Analytical Resources

Sampled by: others

Date Sampled: 01.24.17

Date Setup: 01.26.17

Equipment Used: TCA 001, TCA-002, TSA-1067

SOLIDS CONTENT

Moisture Content	Initials: KO
Tare #	210
Tare Weight	1.5365
Wet Weight+Tare	52.0259
Dry Weight+Tare	36.1170

Test Sample	Initials: KO
Tare #	210
Tare Weight	49.7585
Wet Weight+Tare	98.9483
Dry Weight+Tare	76.9032

Calgon Batch #: 336

2/3/2017

Temp:22

PIPETTE ANALYSIS

Initials: KO

TIME	Tare #	Tare Wt	Dry Wt+Tare
11:42:00	0242 1	1.5178	1.6684
11:42:20	0242 2	1.5213	1.6319
11:43:49	0242 3	1.5270	1.6097
11:49:15	0242 4	1.5270	1.5878
12:10:59	0242 5	1.5228	1.5719
13:38:00	0242 6	1.5303	1.5696
17:16:00	0242 7	1.5275	1.5600
10:50:00			

SIEVE ANALYSIS

Sieve Date: 01.27.17

Sieve Set #: 2

Initials: KO

Sieve Size	Weight Retained
Tare	49.7637
#4	51.6246
#10	59.5369
#18	62.5699
#35	66.02303 KO
#60	68.6689
#120	71.7482
#230	75.6293
PAN	1.1294

SALT CORRECTION

Date: _____ Initials: _____

Tare Weight	
Dry Weight+Tare	

Triplicate Batch # B0054

Calgon Batch #336

	Tare Wt (g)	Tare + Dry Calgon (g)	Dry Calgon (g)
1	1.5187	2.0002	0.4815
2	1.5297	2.0087	0.4790
3	1.5263	2.0024 (N)	0.4761
4	1.4338	1.90979	0.4741
5	1.4415	1.9189	0.4774

Average = 0.477162

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Need pkg - N/C
Need Triplicate - NC
Std pricing okay.

SUBCONTRACT ORDER
To: Materials Testing & Consulting, Inc.
ARI Work Order:17A0304 MTC JOB # 17T001.005

SENDING LABORATORY:

Analytical Resources, Inc.
4611 S. 134th Place, Suite 100
Tukwila, WA 98168
Phone: (206) 695-6200
Fax: (206) 695-6201
Project Manager: Cheronne Oreiro

RECEIVING LABORATORY:

Materials Testing & Consulting, Inc.
777 Chrysler Drive
Burlington, WA 98233 Tukwila Office
Phone :(360) 755-1990
Fax: (360) 755-1980

Client: HDR
Project: East Eagle Harbor
OU 2016 ommp monitoring

Analysis	Due	Expires	Sub Laboratory ID	Comments
Sample ID: 17A0304-01	**Solid**	**Sampled:23-Jan-2017 09:37**	T17-0236	
Grainsize PSEP (Subc)	08-Feb-2017 15:00	25-Jul-2017 02:25		
Containers Supplied:				
Sample ID: 17A0304-02	**Solid**	**Sampled:23-Jan-2017 11:04**	T17-0237	
Grainsize PSEP (Subc)	08-Feb-2017 15:00	25-Jul-2017 03:52		
Containers Supplied:				
Sample ID: 17A0304-03	**Solid**	**Sampled:23-Jan-2017 14:41**	T17-0238	
Grainsize PSEP (Subc)	08-Feb-2017 15:00	25-Jul-2017 07:29		
Containers Supplied:				
Sample ID: 17A0304-04	**Solid**	**Sampled:23-Jan-2017 15:48**	T17-0239	
Grainsize PSEP (Subc)	08-Feb-2017 15:00	25-Jul-2017 08:36		
Containers Supplied:				
Sample ID: 17A0304-05	**Solid**	**Sampled:24-Jan-2017 09:09**	T17-0240	
Grainsize PSEP (Subc)	08-Feb-2017 15:00	26-Jul-2017 01:57		
Containers Supplied:				

Released By	Date	Received By	Date
[signature]	1/25/17	[signature]	1.25.17@12:08 5.0°
Released By	Date	Received By	Date

Printed: 1/25/2017 8:43:33AM

Analytical Resources, Incorporated
Analytical Chemists and Consultants

SUBCONTRACT ORDER
To: Materials Testing & Consulting, Inc.
ARI Work Order:17A0304

Analysis	Due	Expires	Sub Laboratory ID	Comments
Sample ID: 17A0304-06	**Solid**	**Sampled:24-Jan-2017 10:15**	17-0241	
Grainsize PSEP (Subc)	08-Feb-2017 15:00	26-Jul-2017 03:03		
Containers Supplied:				
Sample ID: 17A0304-07	**Solid**	**Sampled:24-Jan-2017 13:30**	17-0242	
Grainsize PSEP (Subc)	08-Feb-2017 15:00	26-Jul-2017 06:18		
Containers Supplied:				
Sample ID: 17A0304-08	**Solid**	**Sampled:24-Jan-2017 11:50**	17-0243	
Grainsize PSEP (Subc)	08-Feb-2017 15:00	26-Jul-2017 04:38		
Containers Supplied:				

Released By	Date	Received By	Date	
[signature]	1/25/17	[signature]	1.25.17@12:08	5.0 °C
Released By	Date	Received By	Date	

Printed: 1/25/2017 8:43:33AM